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The Gloxinia.

"Who can paint
Like Nature? can imagination boast,
Amidst his gay creation, hues like hers?
And can he mix them with that matchless skill,
And lay them on so delicately fine,
And lose them in each other, as appears
In every bud that blows? If fancy, then,
Unequal, fails beneath the pleasing task,
Oh! what can language do?"

This beautiful plant is a native of South America, and has hitherto been treated as a tender, stove plant; but on a better acquaintance with its habits in cultivation, this has been clearly proved to be not the case. It is easily cultivated by any amateur; and indeed, such proofs have been adduced as have thoroughly convinced those of the "old school," that by a different treatment, better and more gorgeous flowers are now produced than when treated as a stove plant. The Gloxinia was named after a botanical writer by the name of GLOXIA, which was deservedly bestowed in honor of his deep research into the nature of plants, so much so that he was considered the most enlightened person on that subject. The great secret (if such it may be called,) in its culture, is the placing it in a state of rest, which we find applicable to all tropical plants. It will be recollected, that Mr. HOFFNER last summer exhibited several varieties raised from seed by his gardener, Mr. D. Ross; and I suppose their redundant beauty is still fresh in the minds of many who visited Horticultural Hall. The shape of the flower being something between the Bignonia and Canterbury Bell, but hangs down like the Foxglove, and the ribs or stripes impart a richness not easily described. I should suppose, by impregnation the field of improvement in raising new varieties must be great, more particularly as this genus of flowering bulbs continues to produce magnificent and unsurpassed flowers during the whole summer, making it one of the most desirable flowers in cultivation, and once acquainted with its culture, one of the easiest. In order to obtain this plant on the cheapest scale, it will be necessary to sow the seed in March, in a light, rich soil, and if forwarded in a hot-bed, will frequently flower the first summer. When your plants are of sufficient size,—that is, when young plants have formed about the fourth leaf,—transplant them into four inch pots, and keep them in a moderately shaded situation, and sufficiently watered to keep them in a growing state. In September, begin to give less water; in November, cease altogether, and place them in a pit, or dry cellar, free from frost, and let them remain dormant until the spring. In the month of March, it will be necessary to shake the dirt from them, and re-pot into one of five inches, with a good drainage; let the soil be such as you can get in some ravine in the woods, composed of rotten wood and leaves, intermixed with the sediments washed from stones which form like sand; the bulbs should be nearly on a level with the soil. These plants are found on the margin of woods, in their native country, and we should imitate their natural soil and habit as near as possible, to induce them to flower profusely. After potted, it will be found necessary to be careful in giving them water, until several leaves are formed; then you may occasionally water over the foliage until the flowers begin to show, which will be about the last of May. If a small portion of guano were mixed with the water, I have no doubt great benefit would result in making the plants more vigorous, and the flowers more strikingly beautiful. The cultivation of flowers prompts us to endeavor to find the easiest mode of propagation. The following will be advantageous to beginners; for instance: By sowing seeds, if the flowers are impregnated, we raise new varieties; when these varieties are fine, either in color, shape, or size, then we commence propagating them; and what is singular in the Gloxinia, is, that if you take any part of the leaf, provided the *rib* in the middle be attached, if planted, it will soon form itself into a bulb, and make a good flowering plant the next season. This plant also seeds freely, and ere long we shall be furnished with catalogues as lengthy as that of the Fuchsia. This plant does not, in reality, require so much attention as many others of higher reputation, but of less intrinsic merit, for when in flower, nothing more is required than watering when necessary; and the beauty of the flowers possess all the requisites desirable to enchant our admiration. It would be an addition to place some moss on the top of the pot, which would give your flowers a better contrast, and take off the rough appearance of the soil.

T. WINTER.

Put lime on land about Christmas, from thirty to sixty barrels per acre; slack it properly; spread even, and brush with a brushed harrow.

A LECTURE,

Delivered before the Hamilton County Agricultural Society, at Cummingsville, December 21, 1844, on the subject of *Vegetation and Manures.* By Charles Whittlesey, Esq, Professor of Agricultural Chemistry and Geology to the Society.

Farmers of Hamilton:—You will not expect me to make before you a display of rhetoric, on a subject which, above all others, is of a plain and practical character.

I have selected for this meeting, the consideration of Manures. I have taken this branch of the science of cultivation, because I think that it is not only the most important, but without a closer attention to it for thirty years to come, than there has been during the thirty years last past, the agricultural capacity of the country will *sink one-half.* If the soil is the basis of cultivation, manure is the life and substance of the soil.

The God of Nature has provided for you a field, which in its native condition, is rich enough. If it produced more luxuriantly than it does, the wants of life would be too easily procured. Indolence, improvidence, and finally debasing ignorance, are found to steal over those rich portions of the earth, where food can be had without rigid labor, and animals can be reared without the care of man.

You occupy that happy medium, where industry insures abundance. You could not be placed differently, without being,—as a class, as farmers, as moral beings,—placed in a worse position. There are portions of the world, of the United States, where more money might be acquired by some of you; but there is no spot where so large a proportion of the population can arrive at an uniform state of competence and household abundance. I am not now speaking of the political institutions under which you live,—the system of schools, churches, and presses; but of the mere capability of your farms to give you all a good, rich living.

I have just passed through your county, in its length and breadth, my attention fixed every where upon the capacity of your soil. Your markets, and the trade and business of a growing city, are advantages that every one sees and feels. It is not necessary to impress upon any mind the benefits of commerce. They are apparent. But I find some persons, whose eyes are wandering to other regions in search of a *better location.* I wish all such were here today. There are many counties of land in the West equally good with your own, but none so well situated for market. Those who are searching for a "better country," admit this; but they say our soil does not produce like Indiana and Arkansas. I take issue upon this fact. They give me in reply a statement of the crops they are raising, and how much is produced to the acre,—say corn thirty bushels, wheat twelve, potatoes fifty bushels, and so on. My friend, I say to him, I will go and look at your farm; and when I come to his fields, the difficulty strikes me as far as I can see the surface. There has been corn and wheat, oats, barley, and buckwheat, without rest or intermission, until the soil, once black and mellow, has become a pale white, and as hard as a brick-yard. What does the man expect of a piece of land before he will call it good? He has been cropping without intermission, perhaps thirty years, the length of a generation of men. The soil has sustained, reared and buried one generation; and the new comers complain of Nature because she is not like them, fresh and vigorous. Ninety or one hundred tons per acre of the blood of the land has been drawn from it, and all this time it has been left to starve for want of food. Even the river bottoms of the Miami's, which are in many places two and three feet of vegetable alluvion, have depreciated twenty-five per centum in fifty years, unless restored by annual floods. How can it be expected, then, that upland, with a soil of only six or eight inches, and but three to five of that disturbed by the plough, should bear a continual drain of twenty-five or thirty years? There will be found in Indiana or Arkansas no such lands, unless they lie in fever and ague bottoms. Horses, and other animals, are accounted good when they retain their strength, and perform a fair day's work. But it is not expected of a horse that he will carry burdens and go without food at the same time—or even if he stands in the stable and does nothing; it is found necessary to give him something to eat, or he will soon begin to stagger and fall away. The labor of the horse consumes blood and other fluids, that are in his flesh and in his bones. His food supplies these fluids, and circulating through the system, his exhausted frame is renewed in strength. The period of depreciation is shorter in the horse than in the soil, but it is not more certain or ruinous. The earth which we cultivate has vital fluids, which the annual grains and plants take up and appropriate to themselves.

The subject of vegetation is somewhat curious, and not easily explained so as to be clear to the mind. I will endeavor to give my views concerning it in as simple a manner as possible, though I shall offer nothing new. It is well to reflect upon the *manner how* the strength of the soil is taken up, for then we shall have a more intelligent view of the process of restoration. On an average, our best upland soils contain eighty-three per centum of mere dead matter, which has no vivifying effect upon plants. It is composed principally of sand, or silex. This silex has some curious properties, such as you would not expect in so hard a substance. It sometimes combines with other substances, forming new compounds called *silicates*, and in this respect plays the part of an acid. I mention this singular fact, because

+ the Skeleton

plants do sometimes thrive in sand, when there is moisture. The plant is supposed to have a power of dissolving with the aid of water, and for want of something better to live upon, some of the silex, or sand, and in the formation of the sand as it crystallized, it may have combined with or enclosed lime, potash, soda, or some such alkali. Of course, the separation being effected, these alkalies are ready to act their part in vegetation, and the plant thrives to a certain extent. Chemists suppose,— perhaps I might say they demonstrate,—that this decomposition of salts and silicates, is brought about by an electrical action, or what is the same thing, a galvanic power, natural to the fibrous roots of vegetables. It is certain, that not only lime, soda, potash, and other alkalies, are found in the stalks of grain, but silex also. There is not supposed to be any nourishment in this selix, which forms part of the stem; it is merely the material made use of to give it hardness and strength. The straw of wheat yields about sixty-one per centum of it. If we allow eighty-three per centum of the surface† matter to be selix, there remains seventeen per centum of other substances; but not all of this is *nutritious* matter, by any means. And now, in order to be intelligible, I must say something about the composition of this small residue. No soil can be productive without vegetable matter; so we expect to find some of it in all bearing fields. There are species of vegetation that grow with very little of it, perhaps some that have a feeble existence, from the air and earths alone. But as a general proposition, it is assumed that without the presence of vegetable matter, there will be no valuable vegetation. If it should be asked how the primitive earth was able to sustain its first crop, I should not undertake to give an extended answer to the interrogatory. There may have been, at first, plants requiring none or but little of that kind of support; and these decaying, gave rise to the food for a succeeding growth. But I am not required to give any reply to such a speculation, any more than I am to the query—How were the primeval shrubs, grains, trees, and grasses first started into being? We have to deal with the world and nature in 1844, and not as it was in the year *one*.

The remaining seventeen per centum of the soil contains various ingredients, upon which its value depends. The vegetable matter, in rotting or fermentation, undergoes a *chemical change*. A part of it is dispersed into the atmosphere, from whence it came in the form of gas. Another part remains in a tangible shape, and forms a *brown, gluey, tough* mass, something like stiff jelly. In the old books on analysis it is called *humus*, in modern works *geine*. There is in almost every soil a small proportion of lime, from one to three per centum. This is in the form of *carbonate*, or quick lime, combined with carbonic acid—or of sulphate, which is gypsum—or of phosphate. There is also some oxide of iron, which gives it a yellow and red color—some magnesia, which is an earth; in some of its combinations highly injurious. Other salts, such as potash and soda, may be found in many soils. These may exist in such small quantities, that they escape analysis; but the plant has a more delicate faculty of research, and generally contrives to find them.— The ashes of most wood contain potash, as every one knows, who makes black salts. The timber of the poplar has been found to contain seven hundredths of one per centum—beech, twelve hundredths—oak, fifteen-hundredths— and elm, thirty-nine hundredths of one per centum. Most woods contain a little iron in the state of oxide, and a mite of maganese. The ashes of oak wood contain about thirty per centum of soluble salts, principally lime and potash, which are easily taken up by water. There is also about thirty-five per centum of earthy matter, besides the silex, (which is very small;) and these earths are insoluble in water to any valuable extent.

It is necessary to use the terms salts, earths, oxides, acids, &c., in order to explain myself; but I shall mention them as seldom as possible. By the term salts, is meant in chemistry any compound of an acid with an oxide. An oxide is a metal united with oxygen, and the process is called, in common phrase, rusting, or oxydation. Lime is the oxide of calcine, a metal,— Soda, of sodium,—Potash, of potassium,—Iron ore, of iron,—Ammonia, of ammonium. When these oxides are caustic, like lime, soda, and potash, they are called *alkalies;* and when they are not, like magnesia and alumine or clay, they are called earths. Now the acids unite with both alkalies and the earths, but it is the alkalies that are of so much value in agriculture. These acids are very numerous, and a great number of them enter into soils, and thence into plants. There are the phosphoric acids, sulphuric and carbonic, which are most common and useful; and when they combine with lime there are phosphates, carbonates, and sulphates, all valuable salts. The phosphate is a principal constituent of bones,—the carbonate is common limestone,—the sulphate, common gypsum, or plaster of Paris. Some very good Western soils gave, on analysis, of carbonate of lime, one and three-fourths per centum—of phosphate, two-thirds of one per centum—of sulphate, two and three-fourths per centum.— So far as the mineral part is concerned, these are the life of the soil. But, as I have said, to bring them into an active state, it is indispensable that the vegetable compound called *geine* should be present, and accordingly those same soils are found to have an average of twelve per centum of this substance. But of this only six and two-thirds per centum is *available*, because the remainder is insoluble, and has not gone through all the chemical changes that are

† Surface of the ground

required. So putting all the useful soluble agents together, and the soluble geine, there is about eleven per centum of the mass of a rich upland soil, from which the supplies of vegetation are to be drawn. This *geine* acts upon the salts already there, somewhat like an acid upon the oxides. They combine, the geine and the alkaline salts forming new compounds, called *geates*. And now it is only necessary to plant the seed, or set out the shrub, and nature will give it a body and fruit. Of course, if the growing vegetable takes its sustenance from the earth in which it stands, that earth must lose it, and therefore become less capable of furnishing another crop.

I make this lengthened explanation, for the reason that I have had farmers tell me that they could not *see* that their soil was running down, as though the rate of depreciation should be so rapid that it must be visible to the naked eye before any efforts are made to check it. There are many things analogous to this, where men are content with a good reason, even though their organs of sense cannot discover or witness the truth. It would require very sharp eyes to *see* a plant grow, even if you sit and watch it night and day; but no one doubts whether it is not constantly enlarging itself, rising in height and perfection. It is difficult to *see* the surface of the oil in a lamp descend and fall away by the consumption of the flame, but at the close of the evening the oil is gone and the lamp requires filling, or its light expires. If you calculate the tax you pay the State and County on each bushel of wheat, corn, barley, &c. you raise, it will be a very small, almost an imperceptible sum—say the *sixth* or *tenth* part of a cent; but this minute impost, when carried through all your products and property, makes a sum which your pockets feel sensibly. There is no doubt that we are each one of us this day suffering that gradual decay which results in old age and death, but this drain of strength and life is altogether too minute for our senses to appreciate; we shall say to-night we are as strong and vigorous as in the morning, but reflection satisfies the mind that the work of exhaustion has kept pace with the progress of time. Let these two processes go on together—the State draining your purse, and you yourselves draining your soil, and your children will complain that this country is not good enough for them, and they will abandon it to seek for a better. Proper care will as certainly make land productive, as carelessness will run it down.—But with us it is unnecessary, in general, to *raise* a soil above its *natural* power of production. Most of our land, when new, is rich enough, and all it requires is systematical care. You have not, as in many parts of the earth,—as for instance, in rocky New England and barren Old England,—to *create* a soil by artificial means. You have that already, as a bountiful gift of Providence, and all you are called upon to do, is to cherish, and not abuse it. There is no stock in trade, no investment, like that of manure to a farmer. There are large farms in this county, where every field is as good as ever it was. Such men tell me that nothing makes a return so grateful, so lavish and profuse, as their lands to which the proper *manures* have been applied.

Farmers of Hamilton, there can be no doubt on this subject. Your interest clearly demands attention to it, as the first great object of your profession. You owe it to the God of Nature, not to treat his gifts with neglect. Your progeny are concerned in the question. The State, of which you form so important a portion, is also a party interested, that her fields should never acquire barrenness, as those of Maryland and Virginia have done. Wise laws, schools, banks, colleges, canals, and railroads, will avail a country little, when the soil ceases to give a profitable support to its inhabitants. I place this project of improving soils far above that of improving stock; one is an appendage, the other is the substance and basis. It appears to me that Agricultural Societies should bestow their principal premiums upon *manures and crops*, and upon *essays* concerning them.—Every farmer regards his crops as the grand object of his labors. Taking the census of 1840, which gives the number of bushels of wheat, corn, potatoes, oats, barley, and the number of tons of hay, raised that year in this county, and fixing a fair value to each, I make the value of those crops seven hundred and forty-nine thousand seven hundred and twelve dollars. The value of stock raised or owned in the county, and attached to farms, cannot well be separated from that owned in the city; but from the best estimates I can make, the whole products of the soil *exceed by one-half* the stock reared and owned by farmers. It should also be remembered that the crop is an *annual* product; the stock is not. I make these statements, not to disparage the idea of improving the breed of cattle and horses, but to exhibit the comparative importance of crops and tillage.

On the Auditor's books, there are entered for taxation two hundred and forty-eight thousand five hundred and nine acres of land. Of this, I suppose, one-third is in woodland, and the remainder is in cultivation, or in meadow and pasturage. Probably not more than one-half the farm land of the county is under the plough, or one-third of the whole, which is eighty-two thousand eight hundred and fifty-six acres.—These are mere approximations, and not to be taken as well settled statistics. But upon this supposition, we can base a general calculation of the increase of production that might be effected. The number of acres in corn will be about thirty thousand, in wheat fifteen thousand, oats eight thousand, and thirty thousand in various small grains, potatoes, gardens, &c.

An increase of ten bushels an acre in corn, is three hundred thousand for the county—of four bushels an acre for wheat, is sixty thousand—and other crops in proportion. Carry this surplus through every county in the State, and what a prodigious sum of money would it represent! In this county, I am confident that the increased production of the soil, by a good state of agriculture, would equal the amount of the taxes collected. This sum, for the present year, is two hundred and seventy-eight thousand three hundred and twenty dollars.—By going farther and introducing all the improvements of which the science of practical cultivation is capable, the increased product would more than double the drainage of taxation. The skill and industry exhibited by our German population, has produced results which warrant this conclusion. There are fifty farms in this county, some of them large ones, where the owners would be the gainers to rent one-half of their land to any person who would pay the taxes and farm it properly for the term of five years. I regard the question as settled, that our soils must be worked with more care than heretofore, in order to be profitable; that they must be not only treated with more *humanity*, but must *receive back*, by artificial means, some portion of the life-blood that has been drawn from them by the first generation of occupants. Both these things,—the first a matter of prudence and profit, the second of absolute necessity,—demand immediate attention, not only here, but throughout Ohio.

How can it be done in the most economical and efficient manner?

This inquiry embraces the whole field. I shall be able to say but little at this time upon the subject of *tillage, rotation of crops, varieties of grain, time of seeding, &c.* Each of these headings would occupy a discourse. I shall confine myself to the subject of *manures*, having already endeavored to bring your attention to the nature of the soil upon which they are to act. I know no reason why the *mineral substances* that lie at the surface of the earth, should be found in greater abundance in the first eight inches of depth than in the second, or the third. If this opinion is true, the vegetable power of *soil* over *subsoil*, is owing to the *changes* which air, frost, water, and vegetation have wrought in it. From the manner in which the earth which overlies our rocks was deposited upon them by the ancient waters, which once rolled over our highest hills, it seems impossible that the alkalis would separate and accumulate at the surface. These constituents must have been mingled through the entire mass from two to thirty feet in thickness, and therefore we should expect to find as large a proportion of these necessary salts at the depth of one and two feet as at the surface. In fact, since they are soluble in water, and the rains are constantly drenching the top soil, it is probable that some lime, and other alkalis, are carried away, and deposited on the flooded lands below. It is then *Nature's System of Manuring* which has enabled our lands to produce so abundantly. Let us follow her example. In order to bring her domain to the condition in which it was delivered to us, her system was persevered in from century to century. Of the native product of the soil, nothing was carried away; but everything returned to the earth, from which it sprang. By this process, its capacity was continually increasing. But when we took possession of her fields, we reversed the process. The crop of timber then growing we cut down and burnt, and the crops that we have grown since have likewise been cut down and carried away. We have finally become sensible that this system will not answer, and that if it is pursued thirty years more, we shall be obliged to resign to nature the care of her estate, in order to undergo the slow process of restoration.

In the neighborhood of towns, farmers may procure stable manure at a rate which will answer, but it is only a small portion of the country which is thus situated. Probably if all farmers had commenced at first, and saved and procured all the manure which their crops and stock afforded, they might have supplied themselves. But this not being the case, the treasure having been neglected, dissipated and lost, while the deficit has been accumulating, it now becomes necessary to seek for some *cheap* and *rapid* method of meeting it. The milk man, and such as keep large numbers of cattle, hogs, and sheep, and who are assiduous to retain what comes from them, and secure *all* its valuable qualities, may meet the exhaustions of their soil. But the farmer who pursues the ordinary business of ploughing, mowing, and feeding, dividing his labor among many products, *cannot* supply himself in this way.—*How shall it be done?* I think community has already answered this question, and the principal thing which remains to be done is to enforce a doctrine already established. For general practical purposes, *crops ploughed under* may be considered as the best manure. By best, I mean the most valuable, taking cost and effect together. There is scarcely any grain or grass, in fact I know of no cultivated crop, that will not enrich the soil if turned in at the proper time. It would be an anomaly in nature, if what is drawn from the soil, thereby exhausting it, would not, if replaced in kind, supply the exhaustion. Some plants, however, draw much more from the atmosphere than others, and if in this way we can extract from the air a material which is wanted in the soil, and by covering it at the proper period by the plough, thus consign it to the earth, we have made a valuable addition to our capital. Among the alkalis, there are none that produce such surprising effects upon vegetation as *ammonia*; a

strange substance, which is so volatile that it must be kept confined in order to preserve it. This is the material with which smelling bottles are filled, commonly called hartshorn. If water saturated with it is poured about the roots of a plant, it shoots up with marked luxuriance, but it soon disperses through the atmosphere, and being extremely soluble in water, the rains dissolve and carry it away. The vivifying principle of *guano*, a foreign manure, now much sought after in England, is mostly ammonia. When dead bodies putrify, it is generated; so also in the fermentation of manures, but it escapes and is lost. Human urine contains large quantities, and that of cattle and horses less, but enough to be of great value. Mr. S. Cloon, of this county, has an apparatus for saving and using it upon his grass lands, where the effect, I am told, is visible. It exists in the air we breathe, and is taken up by rains as they descend through it. It is also found in snow, and is the cause why rain and snow water is called soft. Professor Liebig estimates the annual deposite of *ammonia* from rain water at Gessim, in Germany, at eighty-seven pounds per acre, being *one-fourth* of a grain to a pound of water. There is, then, a reason for the popular belief that snows are fertilizing, for the water which results is well charged with ammonia. It is not found in the soil as a mineral constituent, and therefore must be supplied from other sources. You will now see why it is that loose soils derive more benefit from rains than grass lands, and clayey and compact earths. There would be an advantage arising from moisture alone, of which the mellow surface, like a sponge, takes in all; while it runs off from the hard surface, or is soon evaporated by the sun. But there is in this rain and dew, a stimulating principle, which the loose earth retains until the plant can take it up. My impression is that ammonia acts principally as a *stimulant* to powers already in the soil, and therefore if used continually, without the addition of vegetable matter, the land would suddenly fall away and be ruined. This will probably be the result in England, where eight hundred ships are engaged in transporting it from various parts of the world to that island. The analogy is like that between liquor and food; one rouses into action energies that were at rest, the other gives rise to energy itself. A soil well supplied with the vegetable principle,—to wit: with *geine*,—may be profitably quickened by stimulants; and more, this stimulant, being an alkali, serves to bring into a soluble and available state geine that would otherwise have remained useless a long time.

Now, the reason why crops turned in are preferable to barnyard manure, is apparent; in the yard the fermentation takes place slowly and imperfectly, and being exposed to air and rains the *ammonia*, or *best portion*, is lost. When the yard manure is applied to the soil, if it has not already a supply of alkali, such as lime, potash, &c., to decompose it, its value is very much diminished. If the crop, whether of *hay*, *clover*, *turnips*, *corn*, *oats*, *rye*, or almost any thing that grows, is well turned in, and the decay and fermentation goes on beneath the surface, much of the ammonia is retained. A similar effect is gained by throwing fresh manure into heaps, and covering it thickly with earth. The *theory* is, then, that the standing produce of the land, buried in its own soil, furnishes *both the food and the stimulant*. Now, some crops furnish more of both these principles than others. As I have already said, some derive more from the air, and less from the earth, than others, and consequently do less injury to the land in their growth. If they merely returned what they took away, nothing would be gained nor nothing lost. The soil would neither be enriched or impoverished. The advantage is in the difference of gain over the loss. This subject, as to what plants or grains and grasses, are most valuable as manures, is by no means well settled, nor the most proper time to turn them under. By common consent, in America, *clover* is preferred to all others. But there are grasses that contain more nutritive matter, and possibly more stimulating matter. Farther analysis and more experiments are necessary to settle this question. Mr. Ebenezer Stevens, of Mount Pleasant, has tried corn, sowed broadcast over the field, and turned in when about three and a half feet high, with an excellent result. Mr. Samuel Edwards, of Anderson township, prefers oats. Thomas Cooper, Esq. near Reading, last fall ploughed in a full crop of timothy, and sowed wheat on the sod. But for our present purposes, *clover* is good enough; it produces two tons, or forty thousand pounds, of dry manure to the acre, besides the root, which is probably equivalent to as much more. *Barnyard manure*, to produce a *visible effect*, requires about *twenty* two-horse loads to the acre, or about *fifteen tons*. Of this, one-half or more is moisture, mere water, leaving seven and one-half tons. We have already seen that one of the best ingredients has evaporated.—The rains have soaked out many of the salts, until it is in reality not worth so much as the *four tons* of clover, *root and branch*. The expense of purchasing and getting out manures varies much with the situation of the farm, farmyard, roads, &c.; and when purchased, the price varies from ten to twenty-five cents a load. I fix the cost delivered per load of three-fourths of a ton at thirty-seven and a half cents, as an average, or *half a dollar* a ton. This is for yard manure seven dollars and fifty cents an acre. For *clover*, if we allow a bushel of seed to eight acres, at five dollars, it will cost sixty-two and a half cents an acre; for sowing, and loss of land six months, I allow two dollars per acre; making for an equivalent manure two dollars sixty-two and a half cents. But the in-

and this is the main reason why drained lands are so productive. They filter all the rain and snow water.

creased pasturage, for one year before it is turned in, in some cases compensates for the loss of the use of the land while the crop is taking root. In this case also something is gained in the ease of ploughing, for clover land, even in sward, works more readily than grass or old stubble. The effect of yard manure is slow, and it does not so soon render the soil light and spongy; a quality which is necessary to increase its power of absorption, and for roots to find their way in search of food. Unless some of the clover is suffered to go to seed, it should be ploughed in about the end of the second year, for it is a biennial plant, and dies away, a circumstance generally laid to the frosts. I should like to pursue this subject much farther, but it could only be faithfully treated in a course of lectures.

Mr. George Sinclair, an eminent Agricultural Chemist of England, found eighty grains of *nutritive matter* in nineteen hundred and twenty grains of the *leaves of red clover*, and sixty-four in the same quantity of *white clover*. The nutritive matter contained for the red seventy-nine per centum starch, eight of sugar, and five of gluten; the white clover, seventy-seven starch, two sugar, seven gluten. Starch is composed of carbon 42.8, hydrogen 6.35, oxygen 50.85; Sugar, 44.44 carbon, 6.18 hydrogen, and 49.78 oxygen, or nearly the same constituents; but *gluten* contains about fifteen per centum of nitrogen, and *ammonia* is composed of fourteen parts nitrogen to one of hydrogen. We thus see where the ammonia of the clover manure comes from, and how at the same time it furnishes carbon and oxygen, like any other plant. The substance in meat and animal muscle, called *albumen*, is almost identical with the *gluten* of vegetables, and from which the ammonia of blood and putrid carcasses is derived. The surprising vigor given to grass, or any vegetable, by such carcasses, everybody has witnessed. The hay of red clover contains two per centum potash, one-half soda, and two and a half per centum of lime; the hay of white, three per centum potash, one-half soda, and two and one-third of lime; red clover hay furnishes seventeen pounds of ammonia per ton; green corn stalks, five pounds; herdsgrass, five pounds; wheat straw, three-fourths of a pound. Our analyses have not yet been carried far enough, to enable us to determine the exact quantity of *sugar, starch, and gluten*, in the root, stalk, and leaf of the clover plant, as it stands upon the ground; and this is necessary, before we can make an exact estimate of its value. A series of such analyses not only upon clover, but all grains and cultivated roots, must be made, before we can come to the best conclusions in regard to manures. This is a subject worthy of the attention of the State, by whose authority, and at whose expense, they could be made once for all, and thus put in possession of every citizen.

Before I close, it should be added, that clover manure is not as permanent as stable manure in its effects upon land. General experience, however, shows that a crop turned in once in three or four years, will keep the soil in good heart. The English regard *one-half bushel* of *guano* as equivalent to *a load* of well rotted manure in its effects for the season; but the *guano* is principally dissipated by one crop, and requires a fresh application: whether its *ammonia* is sufficient to act longer, if it could be retained in the earth, does not appear. The ammonia, resulting from the decomposition of clover, and other vegetables, probably comes into existence by degrees as the plant demands it; but if it shall be ascertained that a large proportion is lost in the air, plaster of Paris or gypsum, which has a great affinity for ammonia, may be used to advantage to prevent its dispersion. It is conjectured that it is thus gypsum acts as a fertilizer, retaining the ammonia which falls with rain water.

On Preserving Butter.

The following letter appears among the documents accompanying Mr. Ellsworth's late report:

Hartford, Jan. 12, 1844.

Sir:—In answer to your inquiry, What has been your practice in putting up butter, especially for preservation in hot climates, or for long voyages? I will cheerfully state that I have had considerable experience on this subject, and, in some particulars, good success.—There are many things required to insure good butter. The butter itself must be well made; that is, worked enough, and not too much, and salted with rock salt. This being well done, and the buttermilk all expelled, the butter may be packed in good white oak, well seasoned casks, well filled. In cool climates, larger casks can be used. In hot climates, it is best to have small casks,—say from twenty-five to thirty pounds; so that too much need not be exposed while using. Then put these small casks into a hogshead, and fill up the same with strong pickle that will bear an egg, and the butter may be shipped to the West Indies or Europe, and kept perfectly sweet. I have never found saltpetre or sugar of any benefit. Butter of my packing has opened as good in the West Indies as it was in Connecticut. I will remark, that to keep butter in ice-houses, when it remains frozen, will answer, if the butter is to be continued in the same temperature; but if it is exposed to warm weather, after being taken from the ice-house, it will not keep as long as if it had not been exposed to so cold a temperature.

Yours respectfully,

G. Fox

Hon. H. L. Ellsworth.

Neglected Agricultural Products.

The last annual report of the Hon. H. L. Ellsworth, Commissioner of Patents, recommends a variety of neglected agricultural products to the attention of farmers. The first of these productions mentioned is the *Symphytum Officinale*, or Prickly Comfrey. "If all that has been written of this plant be true," remarks Mr. Ellsworth, "it would seem to deserve the attention, as likely to prove a valuable acquisition to our farmers." Cattle of every kind are said to be fond of it. An acre of it, with proper care, may be made to produce thirty tons of green foliage in one year. The growth is so rapid as to afford two cuttings in one year. The root, it is said, should be harvested but once in two years, and will yield two thousand four hundred bushels per acre. The root is greedily devoured by cattle.

The Jerusalem Artichoke is also recommended as food for cattle. It is very much prized in Europe, where it sometimes yields more than two hundred bushels of roots per acre. The leaves and stalks, cut up when green with other fodder, are much relished by cattle, and form a very nutritive food for milch cows.

The Corn Spurry is recommended as a suitable covering for poor sandy soils. It is very easily cultivated, and produces an abundance of pasture. It grows in England, in sandy fields, eight or ten inches high.

A plant called the Bokhara Clover received an extended notice in the report. Mr. Taylor, who presented it to the Royal Agricultural Society of England, stated, that though planted by him in the spring, it grew luxuriantly up to the latter part of September, when it was four feet high: and the stalks were matured into strong and durable hemp. It stands the winter well, flowers in June, and is covered about the middle of July with a fragrant white blossom. It should be harvested in the latter part of September. It is a valuable green food for cattle, and if cut when fifteen or twenty inches high, would furnish a food superior to the common herbage plant.

Lucerne, Sanfain, Millet, and Vetches, have never been tested as they should be in the United States. The Tussac Grass, an indigenous product, large and sedgy—the Guano Grass, a native of the prairies of the Choctaw country—and the Arundo Grass, are declared to be of inestimable worth.

Special notice is taken of a gigantic species of cabbage from France, called the Anjou Cabbage. In Anjou they grow seven and eight, and sometimes even nine feet high. From June, when they begin to ripen, their leaves may from time to time be gathered, and then they shoot out again. Cattle are exceedingly fond of them, and they greatly increase the milk of cows.

Madder, it is stated, will pay a net profit of two hundred dollars to the acre, when properly managed. A farmer in Ohio has grown on an acre two thousand pounds, and he believes that the product may be extended to three thousand pounds, which is much greater than the average crops of Germany and Holland. To work an acre, from eighty to one hundred days are required, and a crop is not repeated until it is three years old.

The Palmetto Root, abounding in the South, is said to contain a large quantity of the tannin principle. By a new process of steam, the tannin principle is now extracted from the bark, and reduced to a small compass. It may therefore be easily exported.

Olives are easily cultivated in the Southern States. A gentleman in Mississippi has a tree in his garden, which at five years old produced fruit, and was as large as trees in Europe usually are at eight. The tree in this country yields a fair crop at four years old for oil, and at eight as much as it usually does in Europe at twenty. The tree is of great longevity, living to be one hundred to two hundred years old, and it may be grown with profit as far North as the Carolinas.

A new variety of Tobacco, lately introduced into Virginia from California, has several advantages over the common varieties. The plants are sooner ready for transplanting, and they mature more rapidly by ten or fifteen days than the varieties in vogue. The leaf is broad and silken, and is, when cured, of a beautiful color.

Give your Sheep Water.

We see in the Albany Cultivator an account of a flock of sheep in Ulster county, that was much reduced in eating rank red clover; nineteen out of one hundred ewes died in the course of ten days from the 9th of June. The clover was very rank, and but little else was found in the pasture for the sheep to live on. The owner found, on turning his sheep out, that the head-land beside the fences that had not been ploughed, was gnawed down close to the ground.

Sheep have been known to live a long time without water, and some farmers turn them into lots where none can be had. In June, while the grass is full of sap, they may not suffer much for want of water. A horse will not drink much in that month, when he is not worked, as you will find if you tether one out by rope or chain in your garden.

But a good supply of good water should be handy for all kinds of animals, not to be drinking in the streets "to be seen of men," but to moisten the food and assist the gastric juices of the stomach.—*Mass. Ploughman.*

Abstract of a Meteorological Register for the year 1844,

Kept at Mount Tabor, Champaign county, Ohio, in Latitude forty degrees fifteen minutes North, Longitude eighty-three degrees forty minutes West; and at an elevation of one thousand and ninety-four feet above the Ocean, and three hundred and fifty feet above Lake Erie. By DARIUS LAPHAM, Civil Engineer.

MOUNT TABOR, Jan. 17, 1845.

R. Buchanan, Esq.
President Horticultural Society, Cincinnati.

Dear Sir:—I herewith send you an abstract of my Diary for the year 1844.

There were one hundred and sixty-nine fair days, eighty-one cloudy days, and one hundred and sixteen variable days. It rained ninety-one times during the year. Snow fell eighteen times in the first part, and six times in the latter part of the year. The latest vernal frost was on May 22d, and the first autumnal frost occurred on the 22d September, making one hundred and twenty-three days between the vernal and autumnal frosts. The latest snow in the spring fell on the 30th of March, and the first snow in the fall on the 28th day of October, making two hundred and twelve days between the snows of spring and fall. The months of May, June, and July, were more than usually wet, so much so, that in some sections of the country the crops of corn and hay were nearly destroyed. The wheat crop was greatly diminished by the rust, and it was considerably injured by the fly in some sections of the State. The corn crop on dry ground when well tended yielded well. Apples, peaches, and cherries, were abundant in this vicinity. Apples were, however, more than usually affected with worms at the core, causing them to ripen prematurely, and disposing them to early decay. The season was too wet for the proper ripening of grapes. The Isabellas were much rotted and mildewed; the Catawbas were not affected with mildew, but a large portion of the bunches were more or less rotted. Late planted potatoes yielded well where they were well tended. The disease so destructive to the potatoes at the East, has not appeared here yet. Pear trees, in this vicinity, have not been affected with blight this season. Plums were stung by the curculio, and rotted on the trees. The season opened three weeks earlier than last.

Feb. 16—Snow fell three inches deep.
20—Frost nearly out of the ground.
22—Trimmed grape vines; blue-birds have appeared.
26—Signs of returning vegetation in the grass, daffodils and flags; meadow-larks seen to-day.
29—Distant thunder; first heard this year.

March 2—A little snow; robins have been seen several days past.
4—Snow fell one inch deep, melted before night; splendid sunset; full moon brilliant.
5—Ground hard frozen this morning.
13—Commenced plowing; wheat fields look green; gooseberries and raspberries have leaves.
18—Ground covered with an inch of snow, and hard frozen.
23—Snow fell one inch deep.
24—Buds of the apple and peach begin to swell; vegetation progresses slowly, owing to cold and wet weather.
26—Buds of the Elm have opened; frogs first heard; commenced making hot-bed.
30—Snow fell last night and to-day three inches deep.
31—Ground frozen; covered part of my peach trees with sheets before sunrise, to prevent the sun thawing the buds too suddenly.

April 2—Snow yet lies in shaded places; grafted cherry trees.
4—Peach buds beginning to open.
11—Peach trees in full bloom; plums show a few flowers.
14—Apples, cherries, and strawberries in bloom.
18—Hard frost, with ice.
24—Quinces in bloom.
27—Dodecatheon in flower.
28—Nature is now dressed in her most beautiful robes.
29—Heavy white frost.

May 1—Locust trees in flower; put mortar around the base of my peach trees.
2—Planted corn in the garden.
8—Commenced planting corn in the field.
21—Frost, with ice on the fences, &c.; picked a few strawberries.
22—Heavy white frost.
27—Grape vines in flower; sweetbrier in flower.
28—Musquitoes have appeared.

June 1&2—The greatest rain fell, known since the settlement of the country; *so everybody says!*
6—Silk worms have begun to spin; raspberries ripening; corn six inches high; wheat in head and part flowering.
9—Green peas on the table.
17—Raspberries ripe, both in the garden and fields.
19—Commenced cutting clover.
27—One of our neighbors has commenced cutting wheat.
30—A heavy rain fell in the night, which measured over three inches in depth.

July 1—Wheat harvest fully commenced.
13—Lightning bugs, or fire-flies, first seen.
17—Katy-dids first heard.
28—Corn fit for table.
31—Rareripe peach trees much mildewed at the ends of the branches.
Aug. 11—Budded cherry trees.
20—Plowed in buckwheat for manure.
Sept. 4—Peaches ripe.
9—Commenced cutting up corn.
10—Commenced sowing wheat.
11—Peaches in their prime.
15—Catawba grapes ripe; Isabella not yet ripe.
22—First frost occurred this morning.
25—Cut clover-seed.
27—Cut broom-corn.
Oct. 1—Dug early potatoes.
6—The forests begin to show the "sear and yellow leaf."
11—Dug late potatoes.
19—Gathered winter apples; ice this morning.
28—The first snow fell during the night to the depth of an inch and a half.
Nov. —No snow during the month of November.
Dec. 13—Snow fell in the night, and during the day, one and a half inches deep.
23—Snow fell during the night two inches deep.
26—Frost nearly out of ground; snow disappeared.
31—Weather fine, and pleasant.

Wheat.

Mr. Editor:—Many experiments have recently been made in Pennsylvania, and other sections of the country, as to the relative advantages of planting wheat in drills and sowing it broadcast, the usual way, and in every instance the result has been in favor of the drilled from five to eight bushels per acre. An experiment made by Dr. NOBLE, of Delaware, "on fields of some acres," shows a difference of eight bushels per acre in favor of the drilled. The Farmer's Encyclopædia, published in Philadelphia, says: "Wheat is either sown broadcast, or by the drill or dibble. Drillings is the most preferable mode. When it is sown in drills, the usual distance between the rows is from nine to twelve inches, but it is conceived that the larger the intervals are the better, and that they may in most cases be even more than twelve inches." Wheat planted in drills, is greatly protected from being injured by the freezing of the lands. It is also said, that it is not so apt to take the *rust* as when sown broadcast. Farming at present is but in its infancy, and great improvement can yet be made. The above is for the consideration and benefit of those who wish to improve and excel.

Cincinnati, February 3, 1843. A FARMER.

The Feeding of Cattle.

Mr. Ellsworth, in his annual report, remarks that the subject of the economical feeding of cattle, deserves due attention. It will be remembered that during the winter of 1842–43, a great number of cattle perished for the want of sufficient food. This was doubtlessly owing to the too great dependence placed upon some particular articles of fodder, and the severity and length of the winter, which shut them up from the pastures. A more careful economy of winter food, by using at the periods of fall and early winter, that food which would answer less for the severe cold weather, with greater attention to the warmth of the animal, might do much to prevent the occurrence of such a time of distress as prevailed in some of the more Northern of the Western States last winter. The proportions of nutritious substances found in the different kinds of fodder, and the amount needed for the conservation of the animal, (or conservation fodder, as it is sometimes termed,) should be known, and thus substitutes may be resorted to in such a manner as to avoid the greatest inconvenience of an unlooked for period of cold weather.

The following table will furnish the relative value of a few of the principal articles of fodder, as determined by experiment:

100 lbs. of good hay are equal to—
275 " green Indian corn,
442 " rye straw,
164 " oat straw,
153 " pea stalk,
201 " raw potatoes,
175 " boiled potatoes,
339 " mangel wurtzel,
504 " turnips,
54 " rye,
46 " wheat,
59 " oats,
45 " peas or beans,
64 " buckwheat,
57 " Indian corn,
68 " acorns,
105 " wheat bran,
109 " rye bran,
167 " wheat, pea, and oat chaff,
179 " rye and barley.

120 " Sugar Beet

Sixteen pounds of hay are equal to thirty-two pounds of potatoes; and fourteen pounds of boiled potatoes will allow of the diminution of eight pounds of hay.

☞ A good cow ought not to yield less than sixteen quarts a day two months after calving; twelve quarts a day the next four months; six quarts per day the next three months; and three quarts per day the month following.

Improvement in Bee Hives and Remedy for the Moth.

Having had the pleasure of a visit from Mr. SANBURN, a most observing and experienced raiser and manager of bees, residing within two miles of Carthage, in this county, we shall proceed to relate, for the benefit of our apiarian readers, many facts communicated to us by Mr. Sanburn, and corroborated by persons who are his neighbors, connected with the management and regarding the habits of these most interesting and profitable insects. In the first place, then, Mr. Sanburn has adopted a kind of hive with an upper compartment, furnished with drawers partly of glass, in which the honey is made from time to time, and which can be taken out, when filled, at convenience. There is nothing, perhaps, strikingly original in this plan, nothing making a great show of ingenuity, or in any way complicated, but there is a simplicity and adaptation for the purposes intended, and so suitable as to size and form to these by him closely observed little creatures, that this hive answers completely the design intended by the constructor.—But probably the best and most valuable attachment to this hive, consists in the bottom board, which swings a very small distance below it, (the hive itself being suspended by cleats,) and in the centre of which there is a contrivance, which in six instances this last summer the inventor has to his own satisfaction, as well as that of many neighbors, proved that the arch enemy and fell destroyer of the bee,—the gallery, or wax moth, or miller,—can be entirely prevented from pursuing its abominable operations. We cannot, at this time, nor indeed until the inventor has secured a reward for his labors by obtaining a Patent, describe either the principle or the means by which Mr. Sanburn has effected his most valuable purpose.—Suffice it for the present to say, that a few weeks will disclose to the world the inestimable result he has obtained, by overcoming the greatest obstacle that has existed to the successful production, in large quantities, of the sweetest of our luxuries.

We consider that this discovery is one of the most important among all the objects of rural economy. We intend enlarging our statements respecting this most interesting little domestic animal,—the honey bee,—in the course of our work, from time to time, derived chiefly from the uncommonly close and acute observations made by Mr. Sanburn, for many years, on a numerous progeny of bees kept by him on his farm. This we believe will throw some new lights on the natural history of this favorite subject of entomologists. We cannot refrain from relating some facts at this time, which have been ascertained by Mr. Sanburn, regarding the age of the Queen Bee. It has been the belief of those who have written on this subject, and among them Swammerdam and Huish, that the Queen was short lived, her age not generally exceeding eighteen months, or at most two years. Now, Mr. Sanburn purchased a stand of bees from an old lady, a pretty good apiarian, who having discovered the Queen, in order more speedily to hive the swarm, which afterwards constituted this stand, cut off one of her wings to prevent her flying; and this same Queen Bee, with one wing only, Mr. Sanburn says he has repeatedly seen, for these nine years past, nearly every summer, and firmly believes that she is still existing in the same hive. On the front, and on each side of Mr. Sanburn's new hive, there is a glass window, with shutters, to exclude the light when the bees are at work, it being well known that they cannot work in the light; on the inside of these shutters, looking-glass is inserted for the purpose of examining the operations of the bees, and more especially the Queen, without alarming them, the Queen Bee being extremely shy, and ceasing to lay eggs or perform the necessary functions of her nature when she sees herself observed. But the most astonishing operation performed by Mr. Sanburn, is that of his being able to make his bees produce ten

not each bee - and if not how many

pounds of honey per day in the depth of winter; we cannot now enter fully into this process; we shall only observe that this is effected by the use of warm bricks, covered with cloth, or other things, and placed in the hive, around the materials furnished for the food of the bees, in a pan or vessel of some kind; this is repeated once or twice during the day; the bees are soon busy making the combs, and filling them with honey. Mr. Sanburn informed us that he made a box, or hive, which would contain seven bushels; into this he put bees by uniting three swarms into one; in the course of thirty-five or forty days, this colony made two hundred and forty-five pounds of clear honey, and not more than one wine-glassful of bee-bread. Mr. Sanburn detached this amount of honey from the box in its whole shape, and placing it on a large tin waiter, put it on a table, where it was seen and wondered at by his neighbors for some time. One night, when in bed, he heard a crash, when he thought of his pyramid of honey; he took a candle into the room where it was, and discovered that his monument had fallen from its own weight, and the honey was running down in thick streams of the sweetest richness, on all sides of the table, to the floor. Mr. Sanburn can, like most skilful apiarians, unite any number of swarms, or transfer the bees from any kind of hives into new ones. Many persons in this neighborhood have been much delighted with his assistance and operations in this way.—Indeed, his apiarian fame seems to have reached even England, for Prince Albert, who has become a raiser of bees, not having been altogether satisfied with the specimens of honey, both in boxes and glasses, which his Quaker superintendent from Pennsylvania has produced from his Apiary, has given directions to the English Consul in Washington, to look out for a still more able bee master, if possible, and the Consul having heard of the doings of our friend in the East, which he visited, and where he displayed some of his knowledge in this way to some persons known to the Consul, has written to him, intimating that if he will come on, he may, if he should wish it, probably become the manager for Prince Albert in his Apiarian hobby.

There are some most beautiful specimens of Mr. Sanburn's virgin honey in glass boxes to be seen at Aldrich & Co.'s, glass manufacturers, on Main street, between Fourth and Fifth streets.

E. J. H.

Burning Stubble Ground.

In conversation with a farmer the other day, he stated that he thought he had received much benefit from burning over a piece of stubble ground. It caught fire by accident, from some bushes that he had cut and was burning; and the field, being dry, the fire run over it and burned the stubble pretty clean. It was sowed the spring following to grain of some sort, (we did not learn what,) and it was found that the ashes were a good dressing, and improved the crop of that year, and the grass which followed.

The plan of burning stubble was practised much in olden times. Old Virgil said, or sung, about it more than eighteen hundred years ago:

> "Long practice has the sure improvement found,
> With kindled fires to burn the barren ground;
> When light the stubble, to the flames resigned,
> Is driven along and crackles in the wind."

Beatson, in his new system of cultivation, mentions the practice of a Mr. Curtis, of Lynn, Norfolk, (England,) as follows: His stubble was shorn and left about eighteen inches high, and so completely set fire to as to consume every particle that appeared upon the surface. This operation, says he, destroyed every weed and seed that grew, leaving the surface entirely covered with ashes; the consequence was, that his crop of wheat proved extremely advantageous, its produce being full four quarters per acre. Moreover, his land, treated in this manner, was remarkably clean and free from weeds. and probably insects

Miscellaneous Notes.

☞ Messrs. Jackson & Bennett, Silk Manufacturers, Covington, Kentucky, have handed to us some very pretty specimens of small neckerchiefs for ladies, made from our native produce. The article is very light, and the colors beautifully set in and changeable. We delight to see the products of our own soil, particularly in silk, brought forward and patronized. We recommend the very handsome articles of Messrs. Jackson & Bennett to persons of taste, as well as of patriotism.

☞ The White Doyenné Pear, the engraving and description of which we gave in our last number, (February,) does not seem, from what we have learnt since from several quarters, and particularly from our careful friend Mr. Ernst, to deserve all the encomiums which we passed upon it. In the East, it appears that in most situations the fruit is subject to crack, and to be blighted; in some places, it is true, with good cultivation, it does well. In the West, the same observations may be made upon it, as Mr. Ernst complains of similar cracking and blighting of the fruit. Yet, Dr. Flagg certainly produced some very fine specimens at our fall exhibition; indeed, it was upon these that our description was partly based; he is known to bestow extraordinary pains upon his fruit trees, and perhaps such as ordinary cultivators can hardly accomplish. The President of our Horticultural Society, Mr. Buchanan, also raised some very large specimens. While upon this subject, we will here quote from that excellent little work of T. Bridgeman, the *Fruit Cultivator's Manual*, a few observations upon the deterioration of fruit. He says, "that some of the fine varieties of the pear have deteriorated in some parts of the country, is unquestionable; this is ascribed to various causes; first, that the varieties have *run out*, as it is termed: second, to the use of diseased stocks, or scions, from diseased, or aged, or unthrifty trees, or both: third, to the deleterious influence of the salt air, near the seaboard: fourth, to the want of proper attention te soil and culture. We can subscribe to the soundness of the reason first assigned; there are too many instances of varieties of fruit, whose origin is so remote that it cannot be traced, still continuing in full vigor; and the kinds which have deteriorated in some sections of the country, still maintain their celebrity in the interior, and more especially in the virgin soil of the West. Which of the other causes assigned, has tended to deteriorate the fine kinds alluded to, we will not undertake to determine; one or more of them may have had their influence, but we think that proper attention to propagation, soil and culture, may, in general, if not in every instance, restore the valuable old varieties to their pristine excellence; and in this vicinity, (New-York,) there is decisive evidence of the improvement of that superior old variety, the White Doyenné, Saint Michael, or Vergalieu." To encourage us still further, Mr. Kenrick, in his well known and highly valued work, the *American Orchardist*, says:—"Those varieties, therefore, which no longer succeed with us, (Boston,) may yet continue for a while to flourish in the *middle regions of the Union*, and especially in the interior, beyond the limits and influence of those cold Eastern breezes from the Atlantic, which, rising with the diurnal appearance of the sun, visit us so regularly and constantly at stated seasons." We conclude, then, for the present, and until further trials, that this fruit, unless a particular soil, aspect or cultivation are resorted to, (at any rate at present we cannot say more,) either ranks only second or third in our list of Western fruits, or may probably fail altogether. The Catalogue of the London Horticultural Society we find, although it considers the Doyenné Pear a fine sort, does not consider it *first rate*. However, the soil and climate of England are so different from our own, that this will form but a slim criterion by which we can judge.

☞ We are very much pleased to hear from a friend who visited Louisville lately, that Mr. Jackson, Silk Manufacturer, who lately left Newport to commence operations at Louisville, has every encouragement to render it highly probable that he will be very successful in his undertaking there. He is now getting his materials at a reasonable rate, and sufficiently plentiful to enable him to do a good business. This is cheering for the Silk cause in the West, and we have no doubt that this great interest will slowly but surely advance, so as to become, by and by, of immense importance to the country. We most heartily wish complete success to the Messrs. Jackson, both in Louisville and in Covington, Kentucky. That State, we trust, will, with its proverbial liberality, give this cause of silk culture all the aid, both legislative and otherwise, that can possibly be thrown upon it.

☞ It is a common observation, that certain kinds of fruit have *run out*. That this is true, in the strict sense of the term, is questionable. We are inclined to believe, that the character of the stock upon which scions are grafted, has more to do with the matter of the change and deterioration of fruit, than anything else. We are all well aware, that this is the case with the effect the quince exercises over pears—giving to some sorts something of the harshness and astringency of the parent stock. Judging by analogy, why should this not be the case more or less with most fruits? Why should not the stock of the sweet apple exercise an influence over the produce of the sour apple scion, particularly in a series of years? We think it would be well worth while for all cultivators, who have the opportunity, to go into this mat-

ter, and watch the results. This might furnish a clue to many of the changes which take place in some particular kinds of fruit, besides the influences of soil, climate, and cultivation.

☞ Mr. E. Sayers, now a well known correspondent in our pages, has it in contemplation to write a small treatise on live fences from the largest kinds of plants for that purpose, down to the box. Mr. Sayers is most decidedly of opinion that the Maclura, or Osage Orange, will be the best for the West. This hedge succeeds admirably well around Philadelphia, and as far as it has been tried, it has done well here.

☞ Mr. S. S. Jackson informs us that he has raised upwards of a thousand roses from the seed. He sowed about the 20th of December last, and they are now showing many small buds, and even flowers. He occasionally gets a valuable variety by these means. He is also endeavoring to obtain some new varieties of Chrysanthemums from seed. We consider Mr. Jackson one of our best cultivators of flowers.

☞ We have received two numbers of another good coadjutor of our cause, particularly of the horticultural,—the *Indiana Farmer and Gardener*, edited by Dr. Beecher, at Indianapolis. Dr. Beecher has been for a long time a highly valued correspondent on agricultural subjects to most of our papers in the West, and among them to the Western Farmer and Gardener. We, therefore, are fully aware of his excellent qualifications for the task he has undertaken. His work is published semi-monthly, at one dollar a year.

☞ On one of the mildest days in the month of February last, accompanied by our cotemporary and friend, Mr. Bateham, editor of the Ohio Cultivator, we took a drive round our city, to visit a few of our best Nurseries and Greenhouses. The first establishment we visited was Sayers & Heaver's, on the Reading Road. Here we found his new Green-house completed and filled with good and choice plants. The assortment of Roses has lately been much increased with the newest from France. They have now upwards of two hundred varieties. Here we found a fine and extensive collection of Verbenas, of which they have about fifteen varieties. There is yet left a number of very fine Pear trees of the best kinds, out of which we had selected one hundred for our own farm last fall. Of peach trees there will be a fine lot this spring of the best kinds for disposal, as well as of most other trees, vines, and plants, usually found at the best Nurseries.

The next place we visited was Mr. C. W. Elliott's very pretty location. We were much pleased with the position and arrangement of the grounds, cottage, and green-house. The dwelling-house is on a small rise, in a beautiful, thin grove of locusts. The surrounding small knolls are covered with a smooth, blue grass sward. The back, and most broken parts of the ground, are planted with choice fruit trees. Here are rustic arbors and fences, made of the branches of trees without taking off the bark. This spring there will be quite a number of fruit trees of different kinds for sale, chiefly peach. This Nursery is on the Madison Road, a short and pretty drive from the city. The Nursery has just the right aspect, slope, and richness, for a good and flourishing growth of trees. Mr. Elliott is now stocking his place rapidly, and it will soon rank among our most extensive Nurseries here. On our route through the city again to see Mr. S. S. Jackson's conservatories and grounds, we stopped for an hour to refresh ourselves and horse at what we considered a very good *half-way house*,—the well known and excellent hotel, the *Dennison House*, on Fifth street. Here, after having partaken of Mr. Noble's first rate catering and careful attention, we proceeded on our most pleasant day's journeying, down the river about three miles, which brought us to our point of destination. Mr. Jackson's situation being on the river, and on the handsomest part of the road, and between two fine country residences, is most enchanting. His Green-houses are tastefully and uniformly constructed, and of considerable extent. His collection of plants is fine, and of great variety. He has more than three hundred kinds of Roses, a vast number of Geraniums, Verbenas, &c. We saw here, for the first time, what is called the *Poplar Peach*, from its similarity in growth to the Lombardy Poplar. Mr. Jackson informed us that the fruit is fine, of good flavor. He has a number of very large, luxuriantly growing roses, well suited for the pyramidal form. His stock of peaches is large, and nearly of all kinds,—the fruit of which he has himself tested,—about thirty varieties.

We had not time this day to visit Mr. Howarth's, and some other Nurseries and Conservatories, we wished to visit. Mr. Howarth's shows well from the road, and we have no doubt he is as successful as a cultivator, as he was when in the city.

We really must say, that we consider that this neighborhood is very well off for excellent establishments of the kind we have been very imperfectly describing, and we think that all engaged in them are well on the road to making them become in a very short time, important and large concerns in the horticultural business. Great personal attention is paid to all the particular operations of the Nurseries, and there is very little danger of error or negligence in the discharge of their owners' duties to the public.

☞ At the request of Mr. J. Brace, who is managing an extensive farm one mile back of Covington, Kentucky, the soil of part of which

has become somewhat exhausted by injudicious cropping, we took out to him a New York Subsoil Plough from Huxley & Co's. Warehouse, near the Dennison House, made by MAYER, to try it with a similar plough from Ely & Campbell's, Lower Market street, made by NOURSE, of Boston. The Boston Subsoil Plough performed deeper by three to four inches than the New York Plough, but stirred the ground to a width four inches less than the New York implement. The latter requires a plough to precede it, of a larger size than the Boston does. The Boston article kept its position in the ground more steadily than the New York, but it is not so strong, and indeed requires much stouter handles and more braces, and another screw in the share where it joins the mouldboard. With these improvements, we think that the Boston plough will do its work well, particularly as a drain plough, which it is, more properly speaking, than a subsoil. When the New York article is well ground, which in this trial it was not, we think the draught of these ploughs will be nearly equal, both requiring four good horses, following one or two common ploughs. The importance of this deeply stirring the earth we need not dilate upon, its advantages are numerous, and are highly appreciated in all good agricultural countries, particularly for vineyards and fruit orchards. The subsoil of Mr. Brace's farm is a stiff, yellow clay, with a surface earth of from about four to six inches in general. There is a considerable difference in the prices of the above mentioned Subsoil Ploughs,—the Boston costing here about fifteen dollars, and the New York about nine dollars,—both are valuable implements; but we must, in justice, in the above trial, decide in favor of the Boston implement, although the plough that preceded the New York plough was too small by one-half. We understand that there is another kind of Subsoil Plough in this neighborhood, made all of cast iron. We shall examine this, and report upon its performance as soon as possible. We cannot conclude the notice of our visit to Mr. Brace, without paying a just tribute to the zeal with which he is pursuing his agricultural labors and improvements on this fine tract of land back of Covington. We were shown a most splendid lot of pigs ten months old, partly Berkshire and partly China, which cannot average less than two hundred and forty pounds each. But the greatest improvement we noticed, was his mode of making and putting up a post and rail fence. The posts, instead of being made with holes worked in the usual way for the rails to be inserted in by the common machine for that purpose, are sawed in the proper size from the outside, and the rails can be put in after the post is set in the ground, and a strip of board is then nailed on the outside of the post to preserve the rails in their places. This is a great saving of labor, and answers just as well in every other respect as the old method. One of his neighbors, who we observed was making the same kind of fence, had stopped doing his work on the old plan, and adopted Mr. Brace's, which he declared enabled him to do twice the work in the same time.

☞ Our thanks are due to the Hon. H. L. ELLSWORTH, for several valuable packages of seeds, embracing many new varieties. The country at large cannot be too thankful for the great efforts that Mr. Ellsworth has so long made, and still continues to make, for its agricultural advancement. Such a man is indeed obtaining the most glorious peace victories—the best of all.

☞ We have received PRINCE & Co.'s, of Long Island, most extensive and interesting catalogue of trees, plants, &c., for which our thanks are returned.

☞ A correspondent of the Ohio Cultivator suggests that a detailed account of the culture and success of the Grape-vine in the vicinity of the Queen City from the pen of some of its Cincinnati correspondents, would be productive of much good to the public at large, and particularly interesting to him. In the Fourth Volume of the Farmer and Gardener, page 150, will be found an article on the culture of the vine, by JOHN E. MOTTIER, one of our best and most experienced cultivators, and for a long while at the head of N. LONGWORTH's operations in this way. We would, however, suggest to him, and to other practical grape growers, to continue the subject more at large and more in detail, particularly as to the manufacture of wine. We are promised an article on this subject by Mr. Longworth himself, and we are expecting it indeed very soon.

☞ A most able and interesting address, by CHARLES WHITTLESEY, Esq., on the vast importance of the agricultural interests of Ohio, was delivered in the Hall of Representatives, at Columbus, 29th January last. In this address, Mr. Whittlesey gives a particular account of the farming of Hamilton county, in which, as most of our readers know, he was engaged the past year in making an Agricultural Survey. We invite particular attention to his lecture on manures, and his suggestions for resuscitating worn out lands, in the present number of our paper, page 170.

Neshanoc Potato.

This potato (pronounced about here *Me*-shanoc,) was raised from the seed about the year 1800, by John Gilkey, Mercer county, Pennsylvania. He called it *Neshanoc*, from a creek near to which he lived. It was called by some *Mercer*, from the county in which it was raised It is extensively cultivated, and deserves to be —*Indiana Farmer*

From the Ohio Cultivator.

Letter from David Thomas--Effects of Culture on the Flavor of Fruit.

GREATFIELD, near Aurora, Cayuga county, N. Y.
12th Month, 7, 1844.

M. B. Bateham:

Dear Friend:—Among the observations which have most forcibly struck me since I wrote last, is the great importance of keeping our fruit trees in a thriving condition. No stunted tree bears fine fruit. Even the Seckel Pear, of all sorts the highest flavored, is so inferior in some situations, as to be scarcely worth gathering. Some other pears, however, lose their distinguishing traits entirely, and bear nothing suitable for human lips. Of this class has been the St. Ghislain in my grounds, where the tree stood neglected for several years, and caused me to wonder how anything so insipid could have passed through the hands of ROBERT MANNING; yet that eminent and worthy pomologist was not to blame. An accidental improvement of its condition, caused it in the last season to bear excellent fruit, increased some in size, but immensely in flavor.

It would seem that *flavor* is the last touch of perfection that some pears receive; and that if the nourishment of the tree be exhausted with their growth, so that nothing is left for the last finish, they are tasteless and worthless.—This is not the case, however, with all sorts of this fruit; and exceptions may be found in the Madeleine, Summer Bon Chrétien, Seckel and Virgalieu; but I think we have no right to condemn any variety of the pear, until the tree has done its best—that is, borne fruit in a thriving condition. And another case, bearing on this point, may be given, which I also witnessed the last season. The tree, like the former, stood on a neglected spot, and though it had borne for several years, the fruit was destitute of flavor, and if eaten at all, that task was reserved for the pigs. Last spring, however, the spade was applied near it; the tough sod was turned over; and it sent up strong shoots from the upper branches, while the fruit was much increased in size. A neighbor, who had friends from a distance, came to get fruit of me to treat them; and these pears formed a part of the dessert. Two or three days after, he came to inquire their name, and to see the tree on which they grew, saying he had never tasted better, if as good, and wanted to get some grafts from it in the proper season. I agreed with him entirely in regard to their excellency, and I can ascribe the change to nothing but superior cultivation.

The value of some other sorts, however, depends more on the *season* than on the *culture*, though both are necessary to insure their greatest perfection. Such is the Bezi de la Motte, which is scarcely more palatable than the rind of a pumpkin, in one of our short seasons, like that of 1843. It must be a fine pear, however, in a more sunny land than ours; and such you must have round Columbus.

Thine sincerely,

DAVID THOMAS.

Work.

Push it, Gardeners, in this warm weather. Prune your trees, grape vines, roses, raspberries, &c. Get your trees planted at once. When you can, move them without danger of the frost (when it comes,) catching their roots out of the ground. You can get better trees now than by-and bye; they will be much more sure to live and do well, than if you put it off to the last minute. Get your hot-beds under way. Make large heaps of manure wherever there is room; it will come into use. Cut your grafts, and put away in sand; put in grafts of cherry; bury your grape cuttings; trench ground for your vineyards; dig up level, and rake in grass-seed for new lawns, &c.; put no oats with the seed. Cut out your beds or borders for flowers, and fill with good, rich, well manured soil, thoroughly mixed. In short, do everything that you ought to, *if you can*, and at the right time; but *don't* rake off your strawberry and asparagus beds—don't unstraw your roses—don't let your peach trees flower—don't think that one swallow makes it summer. In short, don't do anything you ought not to do—don't pretend to be what you are not—"keep your hand from lenders books, and defy the foul fiend."—*From a new work, "Advice to Gardeners gratis, for February."*

The Fastolf Raspberry.

This celebrated new variety, which is now attracting so much attention in England, fruited the past season, both in the nurseries of Hovey & Co., at Cambridge, and A. J. Downing & Co., Newburgh, New York. A note from Messrs. Downing confirms our opinion of its merits—that it is a *first rate* fruit, and every way worthy of the most extensive cultivation. —*Hovey's Magazine.*

Prevention of Mildew on Grapes.

Early in the spring, the main stems are peeled, or scraped quite clean, then are whitened with a mixture of lime and sulphur, as much of the latter as to make a very strong smell.—Since using this composition, a correspondent states his grapes have been perfectly free from mildew.—*New England Farmer.*

We would recommend a trial of this to our friends who are troubled with mildew.—*Hovey's Magazine.*

Princess Imperial Pear - after bearing here for several years very luxurious fruit - afterwards became entirely insipid - tasted like old rain water. Other trees had

We insert the following lively effusion on account of the appropriateness of its subject to our pages, and the bearing it has upon us individually.

The Life of the Farmer.

BY ABEL C. THOMAS.

Written for and spoken by a lad at a recent Sunday School Exhibition in Cincinnati.

O not the young son of a farmer am I,
But farmer myself I will be;
For out of the hundred descriptions of life,
The *Life of the Farmer* for me.

Before the first peep of the day he is up,
For cattle from stall must be loosed;
But then he can go to his bed, if he likes,
When chickens are going to roost.

No *notes* coming due in the *banks*,
Debar him from rational mirth;
He whistles in chord with the *notes* of the birds,
And trusts only *banks of the earth*.

No *shares* in a company trouble his thoughts—
Not *he* for the dividend cares;
He knows that his plough in the furrow is set
With far more desirable *shares*.

O madly for *stocks* do your citizens seek,
Till eyes with the seeking are dim;
But haply the farmer is wiser, and knows
That *live-stock* is better for him.

And horses, and oxen, and cows, he delights
To see in his pasture or yard;
And chickens, and turkies, and ducks, and the like,
Escape not the farmer's regard.

From field and from orchard, provision and fruit
Are richly and amply supplied;
His raiment from wool and from flax is prepared,
And what needs the farmer beside?

If some city nick-nack the women desire,
A roll of nice butter they churn,
And bring it to market, with dozens of eggs,
And thus the nick-nackeries earn.

But here I must stop—for I fear that my speech
Already quite prosy must be;
And so I repeat, that of all sorts of life,
The *Life of the Farmer* for me.

Forcing Frames for Early Vegetables.

[From the Manuscript of the American Flower Garden Companion.]

Before I proceed to give rules for the different modes of forcing vegetables, I shall take a general view of the process to be pursued on the management of *Forcing Frames*, so that too much repetition may not be required in the culture of the different varieties, which is similar in every thing, only in the different states of *heat*, which must be in accordance with the heat of the different climates to which the varieties belong; hence, the cucumber and melon being natives of warm climates, require a high degree of heat to flourish in, to be healthy and productive: while on the other hand, the radish, lettuce, and most salads, being from a mild climate, do better in a lower degree of heat. From sixty to sixty five degrees will be best for the former, and from forty-five to fifty for the latter. To accomplish the desired purpose of obtaining the different heats by hot-beds, a proportion of hot material must be used to each kind according to the heat required; hence, if the business is to be begun in the middle of March or beginning of April, which is a good time; if a bed three and a half feet high is required for the cucumber, one of two and a half feet will do for the radish, lettuce, &c. The material for generating heat should differ if possible with the season, that which is used early should be of a more solid, durable nature, than that for the late season; for the early, horse manure from a stable, where plenty of grain is given to the cattle, is best, giving a more durable and regular heat than where much straw or litter is among it. Late in the season, a bed of oak leaves will answer a good purpose, as by them a mild, uniform heat is generated.

Management of Frames.—There are few things connected with the culture of esculent vegetables more essential than *Garden Frames;* indeed, without them the cultivator has but little chance to succeed with an early crop of many kinds of vegetables: the lettuce, the cabbage, radish, and cucumber may be much forwarded by the process of framing—indeed, to almost all kinds early, frames may be essentially applied.

The location chosen for frames should be a dry, well sheltered situation, with an open exposure to the South or Southeast. A boarded fence, front of a building, or the like sheltered places, are excellent locations for Forcing Frames. The spot should be on a rising piece of ground, that the water may not collect and chill the bottom part of the bed. E. S.

To Raise Turkeys.

When the eggs are hatched confine the hen and chicks in a garden; feed them with hominy for two or three days; then carry them in a rail pen into a rye, oats, &c. patch; confine the hen, and feed at least three times a day with hominy, or small grain; keep them so till half grown; the pen should be kept quite dry, or ditched all round; meat of all kinds is excellent for turkies.

☞ Ducks are excellent things for eating bugs in gardens.

Indian Cress, or Nastertium.

"Then spring the living herbs, profusely wild,
O'er all the deep-green earth, beyond the power
Of botanist to number up their tribes:
Whether he steals along the lonely dale,
In silent search; or through the forest, rank
With what the dull incurious weeds account,
Bursts his blind way; or climb the mountain rock,
Fir'd by the nodding verdure of its brow;
With a liberal hand has nature flung
Their seeds abroad."

This very useful plant has been under cultivation between two and three hundred years, and was first discovered in Peru, and is known there as the *Mastruco de Peru*, and with us by the common name of *Stersion*. The first account we have of this species, is under the botanical name of *Tropæolum majus* and *minus;* it was cultivated as a salad, possessing a warm flavor, not unlike our common cress; from this alone arose the name of *Nastertium*. The berries were used for pickles, picked when young and tender, and by many considered equal to Capers. Of late this plant has been more cultivated for its flowers, than other purposes. The most common of this species is the yellow, the first introduced for cultivation: we have now added to the list an orange color; a blood red, very rich in appearance; a new spotted, so termed by florists, but in reality striped, orange scarlet color, and sweet scented, which makes this variety very desirable in every garden. Then we have the double variety, which is cultivated in the greenhouse, but is scarce in this country, as well as many others. We have now to record another new variety in color, *Tropæolum azureum*. This plant was first discovered by a Mr. Mierrs, in his travels in Chili. The thing appeared so improbable among florists, that little confidence was placed in the statement; for it was regarded by those versed in colors, as a matter of doubt whether species of flowers that produced so pure a yellow as the Stersion does, could also produce a *blue*. No analogy could be found; for instance, we have the Yellow Dahlia, but no blue. A blue flower may sport to red or white, but not to a yellow. Again, yellow flowers may sport to white, or red of different shades. In my treatise on the Hyacinth, mention is made that there was no yellow, (for its primitive color is blue,) although catalogues call them yellow, which are a pale yellow ochre color, not a bright yellow. We have the yellow Rose; who ever saw one that was a blue? unless in some French impostor's book of nondescripts, that is too frequently brought here, (nearly every season.) and, I am sorry to say, meets with better encouragement than better men, to the detriment of the Nurserymen of the West. Neither have we seen a yellow Pelargonium, (Geranium.) But to the subject. We have here to record the fact, that Tropæolum azureum, a blue Nastertium, has been introduced into England by Mr. Veitch, a Nurseryman of Exeter, which was discovered by a Mr. Lobb, near Valparaiso, in South America. From the novelty of such a plant, being in opposition to the long argued system of metamorphosis of colors in flowers, it commands a high price. All of this tribe will grow readily by cuttings, but in propagating that way, the plants are shy in seeding. This plant, strictly speaking, is perennial, but is cultivated as an annual, except the double variety, and, as a matter of course, the blue will be cultivated the same way for years to come.—To propagate this useful and ornamental running plant, the seed should be sown early in the spring, and should be fastened to a trellis, being a great bloomer, provided the soil be not too rich, and continues in bloom until the frost destroys them. The plant does not seed freely, until the evenings begin to be cool. When the seeds are wanted for pickling, they should be picked as soon as full grown and plump, as well as tender, leaving some well formed berries for seed. The flowers are frequently used for garnishing dishes for the table, and make a very good appearance in a large bouquet, with other flowers, for the table or mantle-piece, through the summer. If grown by cuttings, and kept in pots through the winter, they should be grown in a rich, sandy loam, and be guarded against frost, and watered sparingly in December and January, and in May planted in the open ground, where they will thrive in almost any soil. T. WINTER.

Rearing Peach Trees.

Mr. Allen W. Dodge, says, in the Massachusetts Ploughman, that he prefers the following mode of planting peach stones:

"I deposite the stones, after being taken from the peach, in sand, or dirt; put them in the ground, slightly covered, in the fall. As for the cotton bag, to keep them under ground, I have never tried it, or any covering but the ground itself. Take up the stones early in the spring, crack them, and plant immediately the meats, or pits. In a week or ten days, they will be up without fail, just as certain as so many peas, or kernels of corn."

Landscape Gardening of the West.

LAYING OUT GROUNDS ON KNOLLS.

One of the principal features, in this country, of *Landscape Gardening*, is in laying out grounds attached to mansions built on knolls or high grounds; these are generally taken from land in its virgin state, and the object is an extensive *view*, or landscape, in connexion with a healthy location. These residences, when well chosen, may be considered the beauties of the United States; perhaps no country in the world possesses better sites for residences of this kind than America, and there are many examples on the Hudson, Ohio, and Mississippi, which for beauty of location, cannot be surpassed. Whatever may be the architectural designs or constructions of such residences, is a matter of little consequence, in my opinion, in laying out grounds, unless when *Gothic*, *Castellated*, or any other order of the mansion, be strictly complied with: then, in order to carry out these different designs, a corresponding manner of laying out grounds should be adhered to. But as my limits will not admit of this, I shall confine my observations to one general plan; and in the first place: The lawn, which should be before the front of the house, (and of course facing to some extensive view, as a fine open country, river, canal, &c.) should, as near as possible, form an open square, with outlines on each side, either of forest trees or shrubberies, planted so as to form a natural screen. The size of the lawn may be in proportion to circumstances, from one acre to two or three acres, and should, if possible, have a gradual descent from the house. I would by all means object to the often practised plan of planting evergreens, making geometrical clumps, &c. in front of the house in such places, as I conceive the object of a lawn to be a well kept grass plat, or natural carpet of a soft and living green.

Another item to be considered in such locations, is the stables, and other offices, which should be thrown in the back ground, and should be so managed as to be as much as possible in connexion one with another. It is better if such buildings are partially concealed by belts of forest trees and shrubs as it breaks off the cold winds in winter, and is in every way more congenial, as well as more consistent with good taste and economy.

The carriage road to such residences should be on an open, free, and extensive plan, and not cramped in the width into a narrow road or walk six or eight feet wide, but should be sufficiently wide for two carriages to pass each other without coming in contact. The entrance gate should be chosen where the fence or outline can be broken into an easy curvilinear form on each side of it, so as to give a natural ease to its approach from either side of the road; for when entrance-gates are made into a straight outline, or fence, they have a stiff, formal and contracted appearance. To give a good effect to the entrance, a well constructed post of heavy masonry should be placed on each side of the gate, and to make it complete, a *Cottage*, constructed in the Gothic style, will have the appearance of real utility, besides being the residence of some one attached to the mansion. The entrance should also be planted on each side with a belt of forest trees and shrubs, to form an outline to the road, and to give a lively appearance to those who may approach the mansion. From the entrance, the main avenue, or carriage road, may be led to the house, around the mound, by the most easy and consistent manner, always avoiding a straight line approach, or coming in direct contact with the front of the house, if possible: unless the extent of the approach is very limited, and then it should lead from one side or the other, and be accompanied by groups or belts of trees and shrubs, that the appearance may not be too bare. But when a sufficient piece of ground is in question, the carriage road should lead around the knoll in the most natural manner, at a distance not to interfere with the *lawn*, which should be left entire, and the approach to the house should be in such a manner as not to cut it up only in front of the house, where sufficient room should be made to turn the carriage. From this a leading road may be constructed through the shrubbery (or it may even pass around the house if no better way can be constructed,) to the *Coach-house*. The *Green-house* and *Flower-garden* should be located as near the lawn as possible, and if it is connected by an outline of shrubbery the better. The Flower-garden, &c. should be so situated as to be in *view* of the front of the house, and be approached on the outline of shrubbery or clumps of forest trees. This outline may also be as a prominent guide to the main carriage road, and will also have a desirable effect to the visiter in presenting the extent of the grounds, as well as being in congruity with good taste and keeping. The Green-house and Flower-garden may be in dimensions agreeable to taste; but I think the flower-garden and shrubbery should be on a scale as large as the lawn.

I prefer a fan shaped lawn - the porch of the house being to handle

The kitchen-garden, vineyard, orchard, and the like, are also desirable appendages, and must be in extent according to circumstances, and should in all cases be some little distance from the house, that they may not come in contact with the ornamental arrangement; but when those are kept in a high state of cultivation, they may be properly placed on the outline of the shrubbery or flower-garden, to form a connexion of one general improvement. E. S.

The Rat-Tail Geranium.

Speaking of plants, let us ask our friend if he ever heard of the celebrated "Rat-tail Geranium," which was first brought to public notice by a famous beau and courtier at Washington, some years since? It seems that he had a passion for Geraniums; and on one occasion he was informed by a friend ("beshrew him for a mad wag!") that if he desired to enrich his collection of plants with one not to be had elsewhere, and which had just been imported from the Niger, to lose not a moment in securing it. This was sufficient. Away he posted, and for a pretty penny became proprietor of the only Rat-tail Geranium in America.

Placing it under his arm, he repaired to the residence of the lady of one of the high dignitaries of the Federal city. Placing it carefully upon the window-sill of the drawing-room, and as carefully adjusting the stem, which, he said, in consequence of a long voyage had become a little dry and lost its foliage; and giving especial directions to have it exposed to the sun, kept well watered, and taken in at night, he made his congee and departed. On the third day it began to send forth its fragrance; each succeeding day it increased, but showed no signs of budding. On the sixth day curiosity was on tip-toe to ascertain, by actual examination, the structure of a plant so redolent of a most remarkable perfume, and yet so withered and stiff, as was the stem of the "Rat-tail Niger Geranium." On removing the earth, and following the stem downward, lo! there lay the remains of an enormous rat, with his tail tied neatly up to a stick!

☞ Train gooseberries near the ground to a single stem—keep it free from suckers; trim one-third of the old wood every season, and use plenty of manure. A Northern aspect is preferable in America—a North fence, for instance.

For the Western Farmer and Gardener.

On the Management of the Mulberry Tree.

Messrs. Editors:—I am of opinion that it is not generally known by many of your readers, nor even by many of those who cultivate the Mulberry tree, that the trees which appear to be dead in the spring of the year, are not actually so. There will almost always be some that do not shew signs of vegetation, especially when the opening of the spring is attended with frequent freezings and thawings. To save those trees from being lost totally, I would recommend the cutting them off at the ground on a level with the surface, (at which place will be found about an inch of the body of the tree dead,) and plant out the top in layers, otherwise they will be entirely lost, root and branch. In planting those trees, the body need not be cut into short pieces; cut off the larger limbs only, and plant *them* also in a furrow in layers.

Should you deem the above remarks to be worthy of notice, you will please give them a place in your meritorious columns.

A CINCINNATIAN.

To Preserve Grapes, &c.

Procure some tin cases of any convenient size, and put in a layer of dry sand or charcoal, and then a bunch of grapes, until the case is full; seal down the lid and make all air-tight, and bury them to any convenient depth in the ground. This plan will likewise answer for late cherries, plums, gooseberries, currants, &c. These fruits, in some gardens, are retarded in their time of ripening, by being covered with mats or nets, which is an excellent plan, and ought to be more generally adopted, as it insures a succession. Grapes, peaches, and apricots, in the open air, may be kept for some time hanging on the trees after they are ripe, by the same means, but their flavor will not be good. Red and white currants, in the same manner, will even keep good till the end of December. Ice-houses have been recommended for preserving fruits; but they are objectionable, on account of the damp moisture which they contain.—A dry, cool, and airy room, free from all atmospheric changes, is the only place where fruits can be preserved for any length of time.

☞ Tar put in rats holes, is said to drive them off.

The Duck Plant.

A communication in the Charleston Mercury gives a particular account of the Aristolochia fœtida, or Duck Plant, as it is called, from its large flowers resembling a bird in shape. It is a Mexican plant, and has been introduced into Havana, from which a specimen was brought last May, and planted in the open ground of a garden in Charleston, where it covers a large arbor, and flowers profusely. The following description is given of it:

"The great singularity in this species, consists in the flower, which bears a general resemblance to some water fowl, and is supposed to be not unlike a duck, hence its English name. A full grown flower, including the tail, is about three feet long; the curious appendage, not inaptly called the tail, is about twenty-two inches, body eighteen inches in circumference. There is, however, a considerable variation in the size of different flowers, although in shape they are remarkably uniform. When several of these flowers are hanging on the vine, they present the singular appearance of a number of strange birds suspended by their bills and dangling in the air. On a cursory view, it requires no great stretch of the imagination to see in this flower a compound of various species of water fowl; the large head and elevated bill of the goose, the curved neck of the swan, the pouch of the pelican, and the body of the Muscovey duck; the long pendulous tail has no resemblance to that of any of the feathered tribe. The body is tubular, presenting the appearance of being inflated; the whole flower is strongly ribbed, to prevent it from collapsing. Its color is pale yellowish green, veined and reticulated with light purple.

"If the external appearance of the flower is very striking, the internal structure is still more remarkable. When it has arrived at its full height, a seam opens longitudinally in the anterior position of the body, presenting the internal surface of the corolla, beautifully spotted with dark purple, on a light yellow ground, like the markings on the flowers of some of the species of stapelia. Around the opening into the throat, the color is a rich dark purple, approaching to black. The opening into the neck and head is not unlike that of the windpipe of some of the feathered tribe. This narrow orifice is lined with thick hair or bristles pointing upwards so as to form a kind of funnel similar to the entrance into a wire mouse trap; above this, and as it were in the bill and head of the bird is the stigma, on which the stamens are inserted. These stamens, which contain the pollen or dust that fertilizes the seed, hang downwards, and we are at a loss to conceive in what manner the anthers can deposite the pollen on the stigma, inasmuch as they are situated below it. Here nature seems to have made a wise provision in calling in the aid of art to effect its purposes. No sooner is the corolla expanded, than a strong and disagreeable odor issues from the throat of the flower. This attracts the insects, and they immediately, and by dozens, enter the orifice whence they are totally unable to return, in consequence of the points of the hairs meeting them.

"Their confinement soon becomes irksome; they keep moving about continually, and thus stimulating the filaments; the anthers now either eject the pollen on the stigma, or, what seems most probable, the pollen is conveyed thither by the insects. But, after the flower has become fertilized, the hair shrinks, becomes flaccid, hangs down close to the side of the flower, and the little prisoners then leave their cage." A species of this genus, (a clematis,) found in England, is stated by Professor Wildenon, (Paxton, vol. 1, p. 63, whose words I quote in part,) to have properties similar to that which the present species appears to possess. That plant, however, was visited only by a particular species of knat, (Cecidomia,) the flower of the present species contained several kinds of insects, the common house fly being most abundant, and the blue bottle or flesh fly being also quite common.

The botanical characteristics of the Duck Plant are as follows:

Aristolochia fœtida.

Class—Gynandria. *Order*—Hexandria.

Natural Order—Aristolochiacœ.

Generic Character—Calix none; corolla one petalled, tubular; filaments none; anthers six, fastened at bottom to the stigma, six parted. Seeds several, depressed.

Specific Character—Plant climbing, evergreen, stem twining, branching; leaves large, petiolate cordate, acute, strongly veined, dark green above, lighter beneath. Flower stalk about a foot long.

Constituents of Certain Plants.

The following table, by Dr. Lyon Playfair, is valuable; showing the relative worth of various plants, and for purposes of comparison.—The results of his analyses agree very clearly with those of Sprengel.

One hundred pounds contain of	Water.	Organic matter.
Peas,	16	80½
Beans,	14	82½
Oats,	18	72
Barley Meal,	15½	82½
Hay,	16	76½
White Turnips,	89	10
Ruta Baga,	85	14
Mangel Wurtzel,	89	10
White Carrot,	87	12
Potatoes,	72	27
Red Beet,	89	10

The Flower Garden for March.

"Come gentle Spring, ethereal, come!
And from the bosom of yon dropping cloud,
While music wakes around, veil'd in a shower
Of shadowing roses, on our plains descend."

With this month, commences the business of the Flower Garden for the coming season. Should the weather be mild, begin to remove the protection given to the Tulip and Hyacinth beds in the winter. Dahlias, for early blooming, may be sprouted now. Perennials and biennials, may be removed from their winter quarters, and planted in the open ground. Seeds of the Rocket, Larkspur, and other annuals, may be sown in the open ground the beginning of this month, and repeated the latter part, in case the frost has cut the first sown off; or those seeds can be forwarded in a hot-bed. Carnations, Picotees, and Pinks, intended to flower in pots, should be top-dressed; those intended for the garden, may be planted out the last of the month, for if planted out too soon, they are apt to suffer by the dry, cutting winds so prevalent at this season. Roses, and ornamental flowering shrubs and trees, may still be removed with safety. Box, for edging, should be planted without delay, and will strike root readily before the sun gets too much power. Lay gravel, or tanner's bark, in your paths, to give this department a neat appearance. Turf, for plats or lawns, should be now laid. Roses that were not trimmed last fall, should be done now. Dahlia seed sown now in the open ground, will flower this season.

THE PARLOR.

This is one of the best months in the year to re-pot plants, which ought to be attended to without delay Camellias will be now in full bloom; what was recommended for them last month, is also applicable to this; in syringing your plants, be careful and not let the water touch your flowers. Fuchsia, Geranium, Mignionette, and all seeds suited for parlor cultivation, may be sown. Tuberose, Gladiolus, and Amaryllis, should be potted. Orange and Lemon trees may be grafted. Chrysanthemums, Oleanders, Myrtles, and Hydrangeas, should be brought forward, with the exception of the first named, which should be re-potted, and every encouragement given them in their growth.

T. WINTER.

A City Gardener.

Mr. E. Sayers, a practical gardener, and the author of several works on various horticultural subjects, has just taken up his residence in our city, on Fifth street, between Race and Elm, where he is ready to lay out designs for, and attend to, gardens, matters in which he has had much experience.

Dr. Beecher and Mr. Bateham.

So long as they go not out gunning for each other, or for their neighbors, very well. Dr. Beecher says, that *if* you heap snow around the bodies and over the roots, so that it will lie there late in the spring, you will kill your trees, for a gentleman in Huntington county, Indiana, did kill *his*. Mr. Bateham says, you *must* heap snow around your trees, if you would protect the blossoms against the early influence of a treacherous season, for David Thomas did it, and did *not* kill *his* trees. There are the theories, and there are the *facts*. As for me, I am with the grumbling Dutchman. "What 's that you say?" "I says nothing—I eats." I suggest, that if you pile up the snow so that it will lie there "till long after his trees should have been at work," as Dr. Beecher's fact did, you will kill the tree, as he did, and for the reason given, because the sap in the branches will be exhausted by evaporation, and will not be supplied by the roots. In the last ten days, (February 22,) the peach blossoms have swelled so that they show the color. If there had been snow enough, that it could have been piled around the root, so as to have lain there a week of this ten days of warm weather, its influence upon the air about the tree, (and in other ways,) would probably have been sufficient to keep this development back, so that next week's cold frost would not have been killing, and the tree would not have died after it. (?) This is most likely Mr. Bateham's *fact*.

C. W. E.

Origin of Isabella Grapes in America.

The Isabella Grape is named from Isabella Gibbs, the wife of Colonel Gibbs, distinguished as a man of great scientific attainments, and who, during a residence in France through the revolutionary war, was enabled to collect one of the most valuable cabinets of minerals of his time; the collection having been made from the public sales of the effects of guillotined noblemen. His cabinet was purchased by Yale College, at the time of, or soon after, the last war. Mrs. Gibbs, some forty years or so since, brought the grape from North Carolina to Brooklyn, and from her specimen the grapes in this part of the country have sprung. This grape has since been cultivated in Europe very extensively.—*Genesee Farmer.*

New Seedling Rose.

Mr. Peter Raabe exhibited a fine Scarlet Seedling Bourbon Rose, raised from Madame Desprez, at a late show of the Pennsylvania Horticultural Society. The committee make honorable mention of it in their report.

Names.	Color.	Form.	Size.	Use.	Texture.	Quality.	Season.	Situation.	Remarks.
Butterbirne Weisse, Herbst, see *White Doyenné.*									
Cadet, see *Bergamotte Cadet.*									
125 Cadet de Vaux, . .	g. y.	obt. pyr.	1	T.	B.	2	Sept. Oct.	S.	
Cadillac, see *Catillac.*									
Caillot Rosat d'Eté, see *Summer Rose.*									
Caillot Rosat d'Hiver, see *Malte.*									
126 Caillot Rosat, English, King.	g. b. r.	obt. pyr.	1	T.	J.	1	Aug.	S.	A good bearer.
127 Calebasse, ... Calebasse Double Extra. Calebasse d'Hollande. Beurrè de Payence.	y. rus.	oblong.	2	T.	C.	2	Oct.	S.	Abundant bearer; crisp with sugary juice.
Calebasse Bosc, see *Beurrê Bosc.*									
Calebasse Vase, see *Beurré de Capiaumont.*									
128 Calmagri.									
129 Camerling d'Allemagne	y. rus.	roundish.	2	T.	B.	1	Nov.	S.	
130 Campanelle, . . .	b. g.	obovate.	3	P.			Oct.	S.	
Canning, see *Easter Beurré.*									
Capiaumont, see *Beurré Capiaumont.*									
131 Capsheaf.									
0 Capucin Van Mons, Noire Graine. Beurrè Noire Graine.	g. r.	oval.	2	T.	T.	2	Oct.	S.	Decays at the core whilst the outside indicates soundness.
0 Capucin, ...	b. g.	oblong.	1	T.	C.	2	Jan. Feb.	S.	
132 Carels d'Hiver.									
Carlisle, see *White Doyenné.*									
Carmelite Musquée, see *Grosse Romaine.*									
Cassante de Brest, see *Inconnue Cheneau.*									
133 Cassiemann.									
0 Cassolette, ... Muscat Vert. Friolet. Lèche Friande.	y. g.	pyr.	3	T.	T.	3	Sept.		Musky.
Catherine.									
Catherine, Early.									
134 Catillac, ... Cadillac. Bell Pear. Grand Monarque. Groote Mogul. De Livre, (of some.) Pound Pear, (ib.) Katzenkopf.	b. y. r.	broadly turbinate	1	K.	C.		Dec. Apr.	S.	Succeeds well as a dwarf quenouille; from a standard, the fruit being heavy, is apt to be blown down.
Certeau, Petit, see *Bellissime d'Automne.*									
Cellite, see *Passe Colmar.*									
0 Chair à Dame, . . . Chère Adame.	rus.	obovate.	1	T.	C.	2	Aug.	S.	Perfumed.
Chambers's Large, see *Uvedale's St. Germain.*									

	Names.	Color.	Form.	Size.	Use.	Texture.	Quality.	Season.	Situation.	Remarks.
	Chambrette, see *Virgouleuse.*									
135	Champ Riche d'Italie.									
136	Chantry Seedling, .	b. rus.	roundish.	2	T.	B.	2	Dec. Jan.	S.	
	Chapman's, see *Passe Colmar.*									
137	Chaptal, ...	b.	obovate.	1	K.	C.	1	Dec. Apr.	S.	Good bearer.
138	Charles d'Autriche, .	b.	roundish.	1	T.	T.	2	Oct.	S.	Large and handsome.
	Charles d'Autriche, see *Napoleon.*									
139	Charlotte Petite, . .	y.	pyr.	3	P.			Sept.	S.	
	Charnock.									
	Early Charnock.									
	Scotch Charnock.									
	Drummond.									
0	Chat-Brulé, . . .	rus.	pyr.	3		C.	3	Nov. Dec.	S.	
	Pucelle de Saintonge.									
140	Chaumontel, . . .	y. b.	oblong.	1	T.	B.	1	Nov.Mar.	W.S	Succeeds well trained as a pyramyd or quenouille.
	Bezi de Chaumontel.									
	Beurré d'Hiver.									
	Winter Beurre.									
	Oxford Chaumontel.									
	Chaumontel Très Gros, see *Easter Beurré.*									
141	Chaumontel New.									
142	Chefrain.									
	Cheneau, see *Inconnue Cheneau.*									
143	Cheminette.									
	Cholwell.									
0	Chomel, ...	p. g.	pyr.	1		C.	3	Oct.	S.	
144	Chrétien Rouge.									
145	Chuchamps.									
	Chypre, (*Poire de*,) see *Rousselette Hâtive.*									
146	Citron des Carmes, .	y. g.	obovate.	2	T.	J.	1	July.	S.	A good bearer, and one of the very best early pears.
	Madeleine.									
	Rose Angle Early.									
147	Citron des Carmes Panaché, ...	y. g. striped.	obovate.	2	T.	J.	1	July.	S.	
	Citron de Septembre, see *White Doyenné.*									
0	Citron de Sierenz, .	y. r.	obovate.	2	T.	C.	2	July Aug.	S.	Resembles the Citron des Carmes, but is inferior.
148	Citronelle, ...					C.				
0	Cluster, ...	y. g.	obovate.	3		C.	3	Aug.	S.	
149	De Cochon, . . .	b. y.	roundish.	3	P.			Oct.		Great bearer.
150	Colmar, ...	g. y. b.	obt. pyr.	2	T.	B.	1	Nov.Feb.	W.	One of the old pears, which requires and well deserves a wall.
	D'Auch.									
	De Manne.									
	Colmar Doré.									
	Incomparable.									
	Clydesdale, see *Kilwinning.*									
151	Colmar, Autumn, .	p. g.	obt. pyr.	1	T.	B.	1	Oct. Nov.	S.	Bears well as a standard.
152	Colmar Bonnet.									
	Colmar Bosc, see *Neill.*									
153	Colmar Chassens.									
	Colmar Doré, see *Colmar*, & *Passe Colmar*									
	Colmar Epineux, see *ib.*									
	Colmar Gris, see *ib.*									
	Colmar Hardenpont, see *ib.*									

Osborn Pear
Fruited 1849